THE

MASSACHUSETTS TEACHER.

JULY, 1858.

Volume XI. E. C. HEWETT, Editor for this month. Number 7.

LARGE GRAMMAR SCHOOLS.

At the last meeting of the State Teachers' Association, there was an interesting discussion on the comparative value of large and small Grammar Schools.* It may not be time lost to call the attention of teachers in the State to the same subject again. We shall not hesitate to favor the large schools, — let them be as large as may be, at least, until the number of pupils shall be five hundred or more, — and some reasons for this preference will be given. But, first, let us give our ideal plan for the school.

In regard to the building, we would have it so constructed that it shall contain a large hall, sufficient to seat comfortably all the pupils; then let there be smaller rooms containing seats for forty or fifty scholars, and each in charge of *one* assistant teacher. Let the entire school assemble in the hall for devotions in the morning, for exercises in singing, for exhibitions, or any other exercise at which the attendance of all is desirable.

At the head of such a school, should be a man of first-rate ability, liberal learning, and large experience; a good disciplinarian, a teacher correct in theory and accurate in practice, and, — most important of all, — *a Christian gentleman*. He should be confined to the teaching of a particular class of scholars, but a small part of the day, — say two hours, — thus allowing him

* It is but fair to say that many of the leading ideas of the present article were advanced at that time, by a gentleman now at the head of one of our State Normal Schools.

time to observe and direct the operation of all the machinery, and to make himself felt in every department of the school. In short, let him be a man fitted to regulate and direct both teachers and scholars, and then give him an opportunity to do it. Let each small room be solely in charge of its own single teacher, aided by the oversight and assistance of the principal. The several assistants' rooms, we would have divided into no more than two grades; deeming the frequent change of scholars from one room and teacher to another, by "*promotion*," as it is called, detrimental both to teachers and scholars. The scholars suffer loss from the well-known fact, that time is necessary for an acquaintance between teachers and pupils, sufficient to insure the best management and the most rapid progress. Again, no two *real* teachers instruct in precisely the same way, and any attempt to render the methods of two teachers entirely uniform, must tend to destroy individuality and produce mechanical dulness. Such frequent changes injure the teacher, by confining to a narrow round of frequently recurring subjects to be taught; and by a tendency to destroy all personal and individual interest in the pupils, for no sooner has an acquaintance with one set of scholars begun, than they are removed and new ones take their place.

In our *model* school, then, we would have an assistant receive enterers to the school, enough to fill her room, and let them remain with her until they are ready to enter the highest department of the school, more especially under the tuition of the principal, preparatory to a graduation to the High School, or the active business of life. Let the next forty or fifty scholars be given in charge of another assistant, and remain with her in the same way. Each assistant's school, however, *might* include two classes, by receiving a new set, a year or two behind the highest in their progress, so that at the time of promotion the school should not be completely changed. In this way, the teacher would have a force to assist her in molding new scholars to her own plan, which she would not have were the school to leave her all at the same time. By this arrangement of the school, each teacher will have time to become personally interested in all her scholars, to set her own stamp upon each, in respect to character as well as scholarship, and to go over a range of study sufficiently extended

to relieve much of the tedium which every active mind must feel when confined for a long time to a very narrow field of thought, and obliged to travel the same short path over and over again.

Then it seems to us that an improvement would be made by enlarging the range of Grammar School studies, in both directions. We favor an extension of the course of study in the Primary Schools, and then would have promotions made from these schools directly to the Grammar Schools; thus, in effect, abolishing the grade of Secondary or Intermediate Schools. We advocate this change for the same reasons that we would reduce the number of departments or grades in the Grammar School; besides, we believe it is generally granted that schools of this grade are the most difficult to manage; the boys are just at that age when they are apt to be restive under the control of a woman, and are, in fact, less willing to yield to her authority than they are when either older or younger. This arrangement would put them under the strong rule and rigid discipline of the Grammar School, enforced, if need be, by the authority of its principal.

Again, a large majority of our scholars in the cities and large towns, especially of the laboring class, never go, and never intend to go, into the High School. They must graduate from the Grammar School to the great and stern lessons of life. But it would seem that they should have a knowledge of Bookkeeping, of the *elements* of Algebra, Geometry, Natural Philosophy, and Astronomy; hence, we would extend the course of study in this direction, so as to include something of the subjects named. We are aware that Grammar Schools differ in their constitution, very much in different places; but we are not aware that any are arranged upon the plan proposed. This, however, is an imperfect expression of our *ideal* of a Grammar School, — a *large* Grammar School. Some of our *reasons* for advocating such a plan for these schools have been given already; others will be added.

First. It is generally granted that, while females are, by far, the best suited for primary teachers, it is better that scholars pursuing the studies of the Grammar School, should be under the influence of the male mind, at least a part of the time. Now, at the present rate of wages, *all* the teachers of Grammar Schools

cannot be males, neither would we advocate such an arrangement, were it possible; again, many of the male teachers who are employed, must be comparatively young and inexperienced, for the salaries paid are not sufficient to retain teachers of the highest ability and ripest experience. But, by the plan which we advocate, one master-mind, by having assistants whom he is to direct, and after whom he has time to look, can make the school all his own, almost as fully as if he were the sole teacher of each pupil; for the *mere drill* of the school can be performed under a sub-teacher, *almost as well* as under the master himself.

Second. It seems to us that, by this course, *unity of design and execution* can be secured in the school, better than by any other. We think every principal of a Grammar School, conducted as they usually are, must have felt, when scholars came into his own classes, the evil effects of their having been trained in different ways, both in their instruction and discipline, in the lower departments. Much time must often be lost in molding such heterogeneous materials after a model so nearly the same, that they may go on advantageously in the same class. Here he has time and opportunity to perform this work from their very first entrance into the lower departments of the school; in fact, all the responsibility really rests on him, from the very commencement of their course.

Third. We believe this method is entirely analogous to that pursued in great enterprises in all other departments of life and business. Every well-regulated manufacturing establishment, railroad corporation, and mercantile concern, is expected to have its *head*, who shall be thoroughly acquainted with every department of the business to the very lowest, and who shall make himself every where felt. He is to have in his own mind, a clear and accurate plan of what is to be accomplished, and the best means of accomplishment; to apportion the work among his subordinates, and to see that every part is so performed as to produce the grand result in the best way. We confess that we are unable to see why a similar method should not be adopted in a work so complicated, difficult, and important, as the education of five hundred children, at that most important stage when they should be members of a Grammar School.

Fourth. *In this way, teachers themselves will be trained to their work, under the eye, and by the example, of an able and experienced director.* After learning the theory of teaching in our best Seminaries and Normal Schools, perhaps even with practice in a "model school," very many teachers of good natural ability and intentions, fail when they come to the actual work of teaching; for the fact is well known, that the power to teach and govern well can be fully developed only in the work itself. How much better, then, that this apprenticeship in actual teaching, which *must be served,* should be under the guidance and direction of a master workman! How much would many a young teacher on whom the responsibility of a school rests, give for the aid of such a clear head and skilful hand as should belong to the master of a school like that we are advocating! And, if a master's aid is necessary to prevent destruction of material when the apprentice tries his hand on unfeeling wood and stone, how much more when he works on the hearts and minds of embryo men and women!

Lastly. We would urge the reason which is too often placed *first,* in our age of gain-seeking, — *economy.* True, the expense of a building such as we should desire would be heavy; and a man *fitted to direct such a school,* could claim a large compensation for his service; but the building would answer instead of several smaller ones; and, with a master thoroughly capable of managing such an establishment, the *aggregate* cost of teaching might be less than would be requisite to instruct the same number of scholars, under three or four masters with one or two assistants each, even though they were but *tolerably* fitted for their work, and should receive pay accordingly.

These are some of our reasons, frankly though incompletely stated, for advocating large Grammar Schools, in our cities and large towns, conducted on the plan we have so imperfectly described. We hope our brethren of the craft will give the subject some attention; and, if our views are wrong, "we are open to conviction;" if not, let us who are engaged in such schools, unitedly urge these views upon the community, for a "long pull, a strong pull, and a pull all together," is no less necessary to work a reform in a matter pertaining to education, than in any other.

E. C. H.

REMARKS ON THE TEACHING OF GEOMETRY.

In proportion as science advances, or rather as it is considered in its true relation to education, it becomes evident that its real aim and purpose is the *development of power*, rather than the accumulation of isolated facts of knowledge. If it does not accomplish that, it will be of very little practical use. To take an example from one of the common branches, of what use would it be to a scholar, to solve all the questions of an arithmetical book from given rules, and yet, for want of that ingenuity and independence of thought which would enable him to view any practical question in all its bearings, to make a blunder in a common-sense example of daily life? Of what use would algebra be to him, considering that nine out of ten pupils will never in their after life perform a single question in it — unless it be for the power of reasoning, which ought to have been called forth by the study of the science, if it has been treated in an intelligent manner? The same thing may be said of geometry, that beautiful science which permits a visible illustration to the problems it brings under our consideration.

Yet, if the object of geometry is only to recite literally the problems of a book, without eliciting any thought at all, the boon to be acquired by these problems is but a very doubtful one, considering that only those few men who enter a certain profession will be called upon to make use of it, in after life. But, if we assume, as the ancient Greeks did, that geometry teaches us to make correct statements and to draw sound conclusions on the basis of form, which is accessible to the senses of every one, then we must shape our course of instruction according to this noble end proposed. And here let us protest against one of the great delusions of this age, viz., that the task of the instructor is to make the pupils recite mechanically a set of lessons from the book, in order that they may accomplish *their* aim, which is to obtain a higher mark in their class, or a degree after a superficial examination. Such an aim is neither real nor final, because it substitutes a shadow for a substance, and considers the means an end.

Reverting to our argument, we would once more state, that

geometry, in order to be effective as well as attractive, ought to appeal, in the first place, to the reason and capacity of the pupils, and not to the reasoning of the book. The latter task is one devolving chiefly on *memory*, with which some persons, and not always the most intelligent ones, are gifted in a high degree; while others, who possess deep insight and power of abstraction, are often deficient in that particular. Should we wonder, if the proficiency of geometry be judged by the standard of memory alone, that it should prove unattractive to the latter class of persons, and thus stifle some noble aspirations in the bud, which else would have grown into a fragrant blossom? The consequences which must spring from such a view, are self-evident. How else could it have happened, that such a small portion of time — if any — is given to the study of form, when compared with that devoted to arithmetic? To assert that form does not enter within the scope of our every-day pursuits, would belie the evidence of our senses. How often are we called upon to measure and compare the dimensions of one object with those of another! How often are we required to describe the surface or outline of a solid, by means of terms for which geometry alone furnishes the key! This, it is true, would constitute but the elements of geometry, and, as such, they belong to the elementary school, where they might form the most efficient means of fixing the attention of the children, and give to their thoughts a real and practical basis. But whether in this country these elements of form are to be found there, we will let those decide who have ascertained how many of an assembly of young teachers can give an accurate definition of a right angle, a rectangle, a rhombus, a prism, a cone, etc. Or, since geometry, in its illustrations, is based on drawing, we should like to know how many could draw, with tolerable accuracy, a straight line or a portion of a circle.

As matters now stand, we expect to hear, with regard to the latter requisite, the stale excuse, "I have no taste for drawing;" the real meaning of which is, "I have never tried it." In order to palliate their ignorance of the elements of geometry, the reply would perhaps be given, that they mean to study Legendre, or some other handbook, the next term. Let us accompany the learner to these delightful shades of book knowledge. We beg

to observe, however, that in the following remarks we do not mean to find fault with the books themselves, but rather with their use or abuse. In the first place, the student has to learn by rote definitions of geometrical forms, accompanied by illustrations, — a task which would be by far more impressive if the illustration *alone* were presented to the pupil, and the definition abstracted from the visible fact. Every child, for instance, on seeing a rhomb, might be led to express that its sides are equal, and two of its opposite angles acute, and the other two obtuse. We hope that few teachers will consider it of vital importance to let the children learn by rote such abstruse definitions as that "a lemma," for instance, "is a subsidiary truth, employed for the demonstration of a theorem, or the solution of a problem;" for, since they have not as yet felt the necessity of such a lemma, they might find themselves in a *dilemma*, to understand its meaning.

Then follow the axioms which, since they are self-evident truths, are considered to need no demonstration. But even if this cannot be denied, we do not see why they should not require any explanation, or at least an illustration. What we object to, is the parrot-like manner in which pupils are often required to recite them, without attaching any meaning to them. If, for instance, we hear them say that "things, which are equal to the same thing, are equal to each other," the benefit of this sentence either consists in their being able to recite it *verbatim*, or it must be derived from a fact which appeals to common sense. An intelligent teacher, who wants to elicit such a fact, might perhaps be induced to ask, "Can you tell me a case where this axiom is illustrated?" We will suppose that, in consequence of this appeal, a pupil should reply, "My height is $4\frac{1}{2}$ feet; I asked John, who lives at a distance, how tall he is. He writes, that he is of the same size as cousin James, who happens to be with me. Upon this I measure myself with James, and find that we are of the same size. From this I conclude, that John also is of my size, namely, $4\frac{1}{2}$ feet, because we are both equal in height to the same object." We believe that similar illustrations would help to make children appreciate the real object of mathematics. The very axiom above quoted contains a logical syllogism, in which a conclusion is drawn from two given premises; and hence it shows a way to start from the known to the unknown.

We have now arrived at that stage of the book which introduces the real problems of geometry. Accepting again the definition given in the book, "that a problem is a question proposed which requires a solution," we are tempted to ask, whether that question is understood to be proposed to the pupil, or to the author of the book. For, since the book contains the solution in its details, and since, in most schools, the pupil is only expected to repeat the same line of argument, it is evident that the solution is not that of the scholar, as little as the corollaries are the deductions of the child, since they are not deduced *by* him but given *to* him. It might further be asked, since a problem is a *question* proposed, whether it ought not be given in the shape of a question.

On this point, however, there may be the same difference of opinion which exists between the advocates of the natural and those of the artificial systems of teaching. As the latter, for instance, would say in teaching arithmetic, "Let the rule be given first, which the book or the teacher may explain to the children;" so would they also say, in regard to geometry. "There must be first a proposition given, and the pupil must arrive at the truth expressed in it by the explanation of the teacher or of the book." According to such teachers, the fact that "two adjacent angles are equal to two right angles," must be given as the object toward which all the efforts of the children must be directed.

The advocates of the natural or inductive system of teaching pursue a different plan. In arithmetic, for instance, they will first start from examples viewed in all their bearings, then attempt to reduce their numerical relation to the simplest formula, and, lastly, proceed, by a logical process of generalization, to the construction of a rule, which thus must be considered as an organic production; whilst, on the contrary, when given first, it can only be considered as an arbitrary fact.

The same men would also view a problem of geometry as an example, of which the result is as yet unknown to the student, whilst its legitimate solution would establish a general truth, which would form the foundation for others. In consequence of this view, they would probably introduce the above problem in the form of a question: The sum of two adjacent angles is equal to *how many* right angles? When given in this form, the

scholar has, in the first instance, recourse to his ingenuity; he must arrange a plan of operations by the means of auxiliary lines. After this, he has to tax his reflective powers; and if he obtains the victory over all doubts and contradictions that may beset his path, he will cherish the result, not for its own value, but chiefly for the impulse and elasticity it has given to his mind. A further recommendation of the above plan is, that it gives to the pupil that kind of independence which raises him above the prejudices and errors even of his book and teacher, and which is a birthright of his heaven-endowed nature. This liberty and independence of thought will only suffer to be limited by Truth itself. There is but one Truth, but there are many ways to it, — some shorter, others longer, — some pleasant, others fatiguing, — but the object is the same. The child, if not slavishly fettered to the text of the book, will be induced to find several solutions to a problem, instead of but one, which must materially add to his conviction, since they all confirm the same result. Moreover, these solutions are given in the child's own language, which is necessarily simpler than that of the book. Such a plan would also be more philosophical than the ordinary routine of recitation, since the mathematical examples of *life* are brought before us mostly as questions, to which an answer has first to be found. Whitney, for instance, had to make a solution to *this* question: "How is it possible to clean the cotton from its seed without the aid of so much manual labor?" The invention of an important machine was the result of his investigations. And thus it is with all other inventions. Yea, more, even if we suppose that some instruments and machines have been already invented, and are warranted to be serviceable for a certain purpose under given circumstances, there are yet many new problems, which an intelligent farmer, mechanic, artist or philosopher has to solve, in order to make them suit altered wants and circumstances.

Returning to the subject of the recitation of problems from the book, we may hear the objection, that according to the above method a scholar could not go through nine or ten books of concentrated learning during a certain period. Perhaps he could not, and yet be the wiser for it. We do not always judge of the merit or usefulness of a man by the number of years he has

lived. A small-brained traveller, who has rushed with his eyes shut through the greater part of this world, has not seen more interesting things than, for instance, a Professor Agassiz, on a ramble from Nahant to Lynn, along the barren sea-shore. The former might, perhaps, talk in a superficial manner of beautiful sights described in his handbook, of feats he never performed, and of things he only heard of, similar to one who studies a so-called logical science under the guidance of leading strings, that is, of the words and phrases of his book. We would also add, that a man who makes out the argument for himself, begins slowly, but proceeds afterwards with greater speed than a mere worshipper of books, because his power as well as his enthusiasm is constantly on the increase, whilst in the latter, both are at a stand-still or even abating. Another objection we are compelled to treat with more consideration. It is this: "How is it possible that an ordinary class of scholars, with an ordinary preparation, can, alone and unassisted, make a correct mathematical solution of a problem, which would satisfy all the requisites of logical deduction?" We concede, that scholars would find, at first, great difficulties in arranging these statements and deductions in a concise and efficient manner, unless assisted by the catechetic method, which however is liable to be much abused, by *lifting* the scholar towards the object proposed, instead of *guiding* him only. The difficulty of the child is easily appreciated, when we consider that the ordinary handbooks plunge at once into the solution of problems, without having, *by a preparatory course of exercises*, developed the powers of combination, analysis, and generalization, necessary to perform a logical process. The teachers of geometry seem not as yet to have felt the necessity of an *introductory course*, consisting of combinations of forms, which would stand in relation to the problems of geometry, as mental arithmetic does to the compound operations of ciphering.

The writer of this article has seen, in schools conducted on the Pestalozzian system, geometry taught on the principle alluded to; he also has observed that it was based upon an elementary course adapted to the capacity of children of about ten years of age. An elementary course of this kind may be differently conceived, and we are aware that some writers in this country have attempted

to illustrate their ideas in a manner more original than systematic. We would bring, in this connection, a just tribute to the memory of a man who has acted an important part in the introduction of sound principles amongst the young teachers of Massachusetts. This man,* the last year before his death, warmly requested one of his pupils, whose arithmetical works were beginning to become popular, to write something in behalf of that much neglected branch, geometry, which would help to restore it to its original vitality. This request still awaits its fulfilment. We would gladly leave it to abler hands to trace out a course, by the means of which geometry might find a place even in common schools, as a twin sister of arithmetic. If the subject should be deemed of sufficient importance, we may, however, try to embody our ideas in a subsequent article, being satisfied that the tree of knowledge will live longer in a healthy condition, when its evergreen leaves are not exchanged for the dead leaves of a book, which thus is permitted to act as an arbitrary ruler. Such a ruler governs by rules alone, and "rules," as an intelligent writer says, "are not to act as a beacon to benighted travellers, but rather as a fence, to prevent defaulters from trespassing."

H. K.

A WORD ABOUT KEYS.

We have an emphatic word to say about keys of all kinds; whether they are keys to mathematical books in any department; keys to grammatical, rhetorical or geographical exercises; or translations in languages, "ponies," as they are called in college slang. We condemn such "*helps*" in every form; and every day of our life as a teacher, adds to the hostility we feel towards them. We never have heard a sound reason, a reason which did not savor of miserable truckling and superficiality, urged in their favor; and we are sure that the reasons against their use, are "as plenty as blackberries."

The first grand objection against keys, and one which ought to

* Mr. Tillinghast.

condemn them entirely, is that by their use the pupil is constantly kept in "leading strings," and of course is hindered from obtaining that assurance and accuracy which will be so essential to his highest success, not only in that particular study, but in the affairs of real life. We think it a settled question that no person, be he ever so mature or faithful to his study, would derive the same intellectual advantage from solving a problem when he had seen its answer, that he would have derived had he been obliged to examine and test every step of the operation so as to be sure that his result was a correct one, without reference to another's work. If such an effect would follow in the case we have supposed, how destructive of real progress must the use of answers be when the pupil has not maturity of mind and is ready to slip over all the work possible, provided he can obtain the desired and prescribed result. We appeal to teachers, if the common practice of scholars, when their arithmetical answers are in their hands, is not to commence the solution of their questions without having properly weighed the steps to be taken, then to proceed mechanically and carelessly through their work, until they suppose they have the figures given in their answer; and if they find the answers agreeing, to erase their work without more thought, or, if the answers do not agree, to erase their work and *guess* again. Is not this practice almost universal, unless the teacher makes great effort to prevent it? And will some one inform us how much preparation a scholar is thus obtaining, for the problems of real life? Is it not a well-known fact that accountants and others, generally find their school knowledge wofully deficient when they come to actual business? And do we not often hear of some school-boy's being unable to work a simple question given to *quiz* him, by a plain, shrewd man? Is not the common use of keys the great cause of the mischief alluded to, as well as much more which we have not time to mention? We have known teachers who *encouraged* their pupils, to a shameful extent, in the miserable habit of working arithmetical problems which we have already described. A certain "ancient maiden" who was our teacher when we were endeavoring to form an acquaintance with the mysteries of long division, used to take our slate, when we applied to her for assistance, and work the

question herself without a word of explanation, *looking at the answer for every figure of the quotient.* It may be supposed that we were none the wiser for her work, but we soon found out the process without her aid; and, "eight year old" as we were, we felt for her the most hearty contempt; and we cannot conscientiously say that our feeling towards her to-day, differs much from our feeling at that time.

The fact that the scholar can have no such tests for the correctness of his work in actual life, is of itself a sufficient reason why he should not have them in school; for the school ought to train him for life as it is; and it is quite as important that he should learn tests for his work, and learn to apply them, as that he should learn principles and processes of operation. Besides, the tests themselves furnish as valuable practice for the pupil as the first operation; and then he feels that his work is wholly his own, and learns to be cautious, self-reliant, and not too ready to follow the directions and dogmatic assertions of another. This is a habit of mind quite as important in other spheres in life as in the mathematical.

We know it is said that the teacher cannot find time to test the work of all his scholars, and sometimes it is more than hinted that, occasionally, he needs the key for his own guidance. Well, be it so; even if teacher and scholars should both be absolutely wrong one time in ten, and not have the mistake corrected at all, we must believe that *independent* work correct nine times in ten, will better prepare the pupil for life, than a stupid correctness obtained by the aid of such unnatural props. We think the benefit, even in the case supposed, is entirely imaginary; but every *intelligent* teacher can devise a great variety of methods by which he can test the accuracy of a class, without actually doing all their work himself.

Again, we are told that the process of proving work at every step, is a very slow one; and the pupil must have answers to save him that labor, that he may get on the faster. Ah! here is the secret of all the mischief; we are in such haste that we cannot stop to learn the subject thoroughly, and therefore we must contrive some means to assist us over the surface so that we can "go through the book," and make it appear as though we understood

it. *Thus we are willing to accept the shell whether it contains a kernel or not.* If we ask whether our object in school-going should be to "go through our books," or to gain discipline and culture of mind to fit us for the tasks of life, no one doubts what the answer will be in *words;* but what is the practical answer by our *actions?* The question put to scholars too often, is, "How far have you gone?" instead of, "What can you do?"

We had a good illustration of the utility of "going through books," a few days since. We had occasion to examine, at one time, six scholars for admission into the highest department of a Grammar School. They were bright-appearing young persons, aged from fourteen to eighteen years. The six scholars had been educated in five different towns; and all had "ciphered nearly through their books;" some had been entirely through; and some had been through twice. The result was that, when we sent them to the black-board without books, and gave them some simple practical questions in fractions, *every one failed,* and, in fact, not a single one was quite sure *how to divide a fraction by eight.* After the examination, one candidate, a young lady of sixteen, informed us that she never before had a question given her which was not in the book!

This very haste to "get through," we apprehend, has made such a call for a key to accompany every mathematical work, that no book-maker is able to resist the pressure; in fact, one veteran maker of arithmetics says he makes keys because they *will sell.* One excellent book on arithmetic was published, not long since, without a key; and from the author's preface, we have drawn some of the very arguments against their use, which we have urged above. But so great was the demand upon the publishers for a key that, at last, they persuaded the author to prepare one, and they would distribute it to "teachers only." Let no honest man, however, "lay the flattering unction to his soul," that his key will fall into the hands of teachers only; if the scholars in nearly every school where his book is used do not have this author's key, we are no prophet.

We have confined our article almost entirely to Arithmetical Keys; but, as we said at the commencement, we are confident the same evils result from the use of keys in other departments,

even from the initial letters so common with map questions in our geographies. We expect no change in this matter until the sentiment of the community is corrected; but in these days when "nuisances" are "abated" so easily, we cannot refrain from calling on our fellow-teachers to assist in preparing the way for abating what we regard as one of the worst "nuisances" in the way of a correct and thorough education. E. C. H.

A GEM.

CAN any one tell us who is the author of the following beautiful lines? They are quoted in "Mile Stones in our Life Journey," a genial book written by Samuel Osgood, D. D., of New York; every teacher should own it. But before giving the poetry, allow us to quote the tribute which the Doctor pays to one of his early schoolmasters.

"His successor was a man of a different mould, a stern, resolute man, his face full of an expression that seemed to say that circumstances are but accidents, and it is the will that makes or mars the man. He was not in robust health, and it seemed to some of us, who were thoughtful of his feelings, that were it not for this he would have been likely to pursue a more ambitious career, and to give to the bar the excellent gifts that he devoted to teaching. He was a most faithful teacher, and his frown, like the rain-cloud, had a richer blessing for many a wayward idler than his predecessor's perennial smile. He has borne the burden and heat of the day for many a long year, with ample success; and when he falls at his post, it will be with the consciousness of having done a good work for his race, in a calling far more honored by Heaven than any of the ambitious spheres that, perhaps, won his youthful enthusiasm. Well says the noble Jean Paul Richter; 'Honor to those that labor in school-rooms! Although they may fall from notice like the spring blossoms, like the spring blossoms they fall that the fruit may be born.'" But here are the lines after so long a preface:

"Lead, kindly Light, amid the encircling gloom,
Lead, Thou, me on!
The night is dark, and I am far from home —
Lead, Thou, me on!
Keep, Thou, my feet; I do not ask to see
The distant scene, — one step enough for me.

So long Thy power hath blest me, sure it still
Will lead me on
O'er moor and fen, o'er crag and torrent, till
The night is gone;
And, with the morn, those angel faces smile,
Which I have loved long since, and lost awhile."

THE PUBLIC SCHOOLS OF ST. LOUIS, AND EDUCATION IN MISSOURI.

New England is, in a high and peculiar sense, the home of free schools. They existed, in that part of our Union, from the very establishment of the communities of hardy pioneers who first contended with the red man for the possession of that sterile soil. Ever since the landing of the Pilgrims, every New England boy has been put in competition with every other boy of his neighborhood or district, and each has had a fair field, and an opportunity for accomplishing all that his ability and industry could compass. The boy of to-day has thus inherited the accumulated energy and self-reliance of many generations of such competitors; and who can wonder at the success that attends him in the conflict of his mature years? From her public schools, New England has drawn her life-blood. From them come the striking and vigorous peculiarities of her people, the perfect democracy of her town meetings, and the absence of artificial classes in her population.

In some communities in the United States, the case has been different. Free schools, attended by the children of the entire

population, are impossible, except where the population is homogeneous, or where it is desirable that it should become so. If they should be introduced into a community where the people are artificially divided into strata, — some forming the "mud-sills," and others the "ridge-pole" of the social edifice, — they are sure, if not abolished, to work a revolution. The low in rank soon come to regard the high with indifference or contempt, unless by their personal qualities the latter make good their title to higher consideration, — and the high are compelled to treat with respect such members of the "lower orders" as exhibit nature's patent of nobility. Under the influence of these humanizing institutions, the stuff of which a man is made, and not the circumstances by which he is surrounded, becomes the measure of his greatness, — the common schools allow no aristocracy, but of intellect and character. Where this condition of things is not desired, — where, on the contrary, the aim is to keep up the artificial distinction of classes, — where certain useful and necessary occupations are looked upon as degrading, and those who follow them are regarded as unfit to exercise the function of governing, or the right of suffrage, — in such communities, free schools are out of place, and any man who favors them, thinking that they do not tend to the subversion of this kind of social structure, shows a great want of penetration.

The State of Missouri was originally settled mainly by emigrants from Kentucky, Virginia and other Southern States, who were not accustomed to the practical democracy of the Puritans. They were not, perhaps, positively hostile to free schools, but they were unused to them, and were certainly not inclined to do much in their behalf. The result has been that the public schools of Missouri have to this day remained to a great extent inefficient and poor. In the rural districts, even at this moment, the best schools are private establishments. Very few of the public institutions are such as a New England man would care to have his children educated in.

What is now true of the State as a whole, was formerly true of the city of St. Louis. For many years after the admission of Missouri into the Union, little or nothing was done here in behalf of free schools. Even the land granted by Congress

for their support was, in a great measure, neglected, and much of it became the prey of speculators, and was thus lost forever to the schools. But St. Louis is a great commercial centre, and as such it has attracted to itself much of the enterprise and industry of the North and East. Ancient notions of rank and social distinctions have given way before the resolute energy of a free immigration, as the venerable cobwebs of an unswept house yield to the reforming broom of the industrious housemaid. Not that Young America has pushed his claims quite so far here as he has in some other localities. Old fogyism is still respectable in St. Louis, but only because it does not oppose, but rather favors, what is reasonable in Young America's programme. It is a vigorous, as well as prudent, old fogyism, and has itself some salt of youth. With such a population, it is not strange that something has in later years been done for free education. Indeed, so vigorously and prudently have the schools been managed, that St. Louis has the reputation of having the best schools and school system of any city in the West.

In the year 1812, a law was passed by Congress, setting apart, in several of the towns of Missouri Territory, all the lands not legally in possession of individuals, or needed by the United States for military purposes, to be used for the support of schools in the towns where they were set off. Among these towns was St. Louis, and if the matter had been properly attended to, an immense fund might thus have been secured for educational purposes. But by various methods, much of the land thus intended for the support of schools, has fallen into the hands of private individuals. Some of the claims were based upon inhabitation, cultivation and possession under the French and Spanish governments, others upon preëmption, and others upon the location of New Madrid certificates. These certificates were issued, by special acts of Congress, to sufferers by the earthquake of 1811, for lands destroyed or submerged at that time, in what is now called the Big Earthquake Swamp in South-eastern Missouri. Under these certificates, any public land, not already assigned, could be entered, and a title secured from the United States. But as this law was passed subsequent to the law of 1812, granting the school lands, of course, these lands could not be thus entered,

for they had ceased to be public lands. Yet nearly all the St. Louis school lands were claimed under these certificates, and the claims have been successfully contested only by a long course of litigation and a large expenditure of money. It is said that the Board of School Directors has expended fifty thousand dollars in litigation for the recovery of land that was held by adverse parties, on one or another of these pretences. The value of the property now belonging to the Board is estimated at about one and a half millions of dollars. The income from it is much less than it ought to be, from the fact that much of the land has been in times past leased for long periods, so that the rise in value benefits the lessees, and not the Board as yet. But a better system now prevails. Better care is taken of the school lands. Leases are given with a provision that the property shall be frequently appraised, and the rent gauged accordingly. Old leases are expiring, and as a result, property that has been comparatively unproductive, is made to yield a handsome revenue. Thus the financial condition of the School Board is constantly improving, enabling it to extend its operations, and to increase from year to year the number and efficiency of the public schools.

Besides this, the Board has several other sources of revenue. The State distributes annually about two hundred and forty thousand dollars, one-fourth of the whole State revenue, among the counties, for the support of schools, of which the city of St. Louis receives from twenty to thirty thousand dollars. In the year 1836, certain lands in the city, called the commons, were sold, and ten per cent. of the proceeds appropriated for the establishment and support of schools. A small sum is annually received from this source. Since the year 1849, a tax has been levied for school purposes, of one mill on every dollar of property in the city. This amounted in 1857 to thirty eight thousand dollars. The whole revenue of the Board for 1857 was one hundred and fourteen thousand dollars. This year it is considerably increased.

So much for the means of support provided for the public schools of St. Louis. Let us notice briefly how and by what bodies these revenues are administered, and the schools controlled.

In the year 1817, the Territorial Legislature of Missouri passed an act, entitled "An act to incorporate the Board of Trustees for superintending schools in the town of St. Louis." This Board of Trustees was empowered to hold all the land that had been assigned by Congress for the support of schools, and all other property that might be given for the same purpose, and also to lease, rent or dispose of the same to the best advantage. They were also required to take into consideration the state of the grants, and whenever the funds at their disposal would allow it, to erect buildings, establish schools, procure teachers, and to perform the duties of supervision. Of this Board, William Clark, Governor of the Territory, was appointed Chairman, and Thomas H. Benton, Secretary. To this Board is due the credit of preventing speculators from seizing upon all the land assigned by Congress to the support of schools in the city. But the means at its disposal were not sufficient for the establishment of schools. The most that it was able to do was to secure the title to the land, and to lease the property for nominal rent so as to retain possession of it.

In the year 1836, the act incorporating the present Board of President and Directors of the St. Louis Public schools was passed by the State Legislature. This Board consists of twenty members, elected by the people in the different wards of the city, each member holding his office for three years, and one-third, as near as may be, going out of office each year. No connection exists between the Board and the city government. The former conducts its own elections, manages its own funds, and obtains them without the intervention of the latter. The School Board is an independent and distinct body, responsible only to the people who elect it, and who are interested in the success of the schools.

The first public school was opened in April, 1838. This was the germ of the present extensive and efficient system. From that time to the present the system has, year by year, been extending itself, until the schools now contain nine thousand pupils, who are enjoying every grade and kind of instruction, from the Primary to the High and Normal Schools. The number of organized public schools in the city is forty-four, conducted by twenty-two male, and ninety-five female teachers.

The High School is under the charge of Prof. C. S. Pennell, formerly of the High School in Lawrence, Mass., and more recently of Antioch College, and is an institution highly creditable to the city and to the Board in respect to the building and its furnishings, and to the teachers in respect to its internal condition. The number of teachers is seven, all males, and the number of pupils about two hundred. The building cost fifty thousand dollars, and the lot on which it stands, twenty-five thousand. The pupils are of both sexes. At the beginning of the next scholastic year, it is proposed to add another teacher, a lady, who is to take the department of drawing. The course of study extends over four years, and embraces two branches, the classical and the general, each of which covers the whole time, or four years.

The St. Louis Normal School — the first institution of the kind ever established west of the Mississippi — went into operation in October last. It has at present nearly forty pupils. So far as may be judged from present indications, it enjoys in a good degree the confidence of the public and of the Board of Directors. Like the High School, it has pupils of both sexes. For the present its sessions are held in the High School building, but at the beginning of the next scholastic year, in September, it is to be removed into a new building, where arrangements will be made for experimental schools of several grades. Not the least among the circumstances that indicate for it a successful future, is the fact that Miss Mary Jane Cragin, for many years a highly accomplished teacher in the Wheaton Seminary at Norton, Mass., has been secured as one of its instructors.

The school system of St. Louis is complete in respect to its grades. It aims, not only to furnish a free education to every child within the city limits, who may choose to avail himself of the privilege, but it also trains its own teachers, in order to secure instruction of a proper quality. Not satisfied with making the schools free, it aims to make them good, to make the teaching thorough and philosophical, as well as extensive and varied. In carrying out these aims, the Board of Directors has exhibited a wise liberality, which will prove in the end a most profitable investment. Utterly discarding the anti-

republican notion that for the children of the poor, only the merest elementary culture is required, and that in the free schools, there should be nothing taught, therefore, but the very rudiments of knowledge, — reading, writing and a little arithmetic, — it has placed before every child in St. Louis the opportunity of acquiring a literary and scientific culture, that will command for him a respectable position in any society.

Beside the public schools, there are in St. Louis many private institutions for the education of youth, of both sexes. Among these the Washington University undoubtedly occupies the highest position. It was chartered some two or three years ago, and is largely endowed. Only the academic and scientific departments are as yet in operation, but it is supposed that the collegiate department may be soon established. It has a strong corps of thorough and accomplished professors and teachers, and bids fair to become, in no long time, one of very first institutions in the western country. Its endowment exceeds $200,000, and the number of pupils is about 200. It is also understood that the corporation are about to establish an institution, of a high order, for the education of young ladies, — the present University being intended only for young men.

But the State of Missouri, although, as a whole, her public schools are not in that high state of perfection that we hope soon to see them in, is yet not to be lightly spoken of. There appears to be a noble spirit among her teachers, — an earnest desire for improvement, and a willingness to do what men can do to secure a reasonable degree of it. A State Association, — the next meeting of which is to be at Jefferson City in July next, — has been in existence for several years. For some time this association supported an agent, who devoted his time to travelling among the towns, addressing the people, consulting with the school officers, holding teachers' institutes, &c. But the panic of last autumn caused a "suspension" of this enterprise, as it did of many others. The attempt to publish a journal has not as yet been made permanently successful; but it is understood that a gentleman at Jefferson City is about to commence the publication of one upon his own responsibility. If individual enterprise does not preöccupy the field, the Association will in all probability take

steps to secure the object, at its next meeting. Whenever the journal is established, we hope the fledgling may deserve and receive a note of welcome from the leader of the flock, the *Massachusetts Teacher.* *

The subject of a State Normal School has also been discussed at the meetings of the Association, and petitions have once or twice been sent in to the Legislature, praying for the establishment of such an institution; and although the prayer of the petitioners has not as yet been granted, yet the friends of the measure feel greatly encouraged in respect to the prospect of ultimate success. The teachers of the State are favorable to the proposition, and this is one important source of encouragement. They allow no petty jealousy to lead them into opposing so salutary a measure; they are not haunted by the mean fear that the graduates of such an institution will crowd the present teachers of the State out of their situations. The same noble disinterestedness among the teachers of Illinois, has met its reward in the establishment, with abundant endowments, of what bids fair to be the most extensive institution of the kind in the country. We earnestly hope that the day is not far distant, when a similar success will attend the efforts put forth in Missouri. For the present the School Board of St. Louis, so far as its accommodations allow it to do so, generously admits into its Normal School such persons as intend teaching in other parts of the State.

It is impossible to overrate the importance of educating the millions of the Mississippi valley. The tremendous energy with which humanity puts itself forth here, makes it necessary to employ some mighty power for guidance and restraint. But this is not all. Institutions are now being established here that will leave their mark upon the population of this extensive region through the ages. The great battle between conflicting principles is to be fought here. Here, Freedom, her scarred "brow glorious in beauty," is even now grappling with hoary Tyranny, for the possession of a continent. The land rings with the preparation of contending hosts. Men's principles are every

* We are very happy to add that since the above was written, Mr. Thos. J. Henderson, of Jefferson City, has issued two numbers of the "Missouri Educator," a monthly journal, devoted to the interests of education in this State. His enterprise commences under very favorable circumstances, and we wish him the most abundant success.

day put to the severest tests. And do not the young men and women who are growing into maturity amid such intensity of conflict, and upon whose character, in a great measure, the issue of the battle is to depend, — whose adherence to principle is to achieve a glorious triumph for Truth and Right, or whose base surrender to selfishness is to insure an easy victory to the vilest of Wrongs, — do not these young men and women require to be educated with especial care and faithfulness? Nowhere is it more necessary for the teacher to put forth his noblest energies, — to labor with unceasing care. With a thorough and philosophical education of the young, civilization will advance, humanity will rise from its degradation, and Right will triumph, all over this great heart of the North American continent. R. E.

A WORD IN SEASON.

Says the wise man, "A word spoken in due season, how good is it!" Every teacher must have noticed that there are times in school, when his scholars seem *ready* to receive a word of moral instruction; when, from causes which he may understand in part, or which may be wholly hidden from his perception, a spirit seems to pervade his school, very different from another spirit of carelessness, indifference and love of mischief which he will find there too frequently.

When the latter feeling prevails, whole sermons will produce no effect or a bad effect, while a few well-chosen words spoken at the favorable moment, may make an impression which cannot be effaced. A single word may fall on some young heart then, in such a way as to remain there forever; and, perchance, that may be the point at which the whole current of the pupil's life will be changed. We can all remember words spoken at such times, in our own childhood, which have ever remained with us, and remain with us still. They have run through our minds in times of joy and gladness; they have sustained us in times of sorrow; we have heard them in the solitary walk, and in the social hour; they have come to us in the silent night-watches, and who will pretend to tell their influence upon our lives?

Watch, teacher, for these favorable moments, and then sow thy seed; the soil is rea ly; let thy words be few and earnest, but withhold them not, for a "necessity is laid upon thee;" and thou mayest yet see that even thy feeble words were, to some young spirit, "like apples of gold in pictures of silver."

E. C. H.

IMMEDIATE RESULTS.

The great demand upon the teacher for immediate results, and the almost universal tendency to judge him by such results alone, constitute one of the greatest obstacles in the way of an accurate and thorough process in education. A noble building does not spring up, gaudy and showy, "in a night;" it requires long and severe toil, and much care and pains to lay firm and lasting foundations for a substantial edifice; and, for a long time, the labor makes no show, and a careless observer might suppose it to be useless. The oak, the hickory and every other *hardy* tree, come to their maturity slowly; to one who cannot afford to wait, their process of growth seems *tedious*, and far less satisfactory than that of the locust or the white pine.

So, it requires a longer time, and more persevering and intelligent labor on the part of a teacher, to *educate* a pupil in the literal sense of the term, to give him the power of using his own faculties and of thinking and judging for himself, than are necessary in giving him a thorough drill over the prescribed pages of a certain book, committing to memory a certain number of rules or facts, and learning the performance of certain set problems. And then the former kind of teaching makes less show at examination, than a glib, thoughtless recitation, where every question is promptly put and promptly answered. The result is less gratifying to those who judge from present appearances only; and so the philosophical, pains-taking teacher is often condemned, while he who is willing to follow the beaten track of the book, like the horse grinding in the mill, gains the applause of unthinking parents, and, too often, of those who should know better, the School Committee. Thus, we sacrifice permanent and valuable results for a poor exhibition of word-memory. E. C. H.

SCHOOLS IN WORCESTER.

The city government of Worcester appropriated $30,000 for school expenses, the past year, while the actual cost of the schools amounted to about $33,000. This year the appropriation has been reduced to $28,000. The salary of the school superintendent has been reduced from $1500 to $1200. The salaries of teachers remain the same as heretofore. Female teachers receive from $250 to $500 per annum; and male teachers from $1000 to $1300. The Report of the Committee shows a much higher ratio of average attendance during 1857 than during 1856. The number of persons registered as members of the schools, has increased also; although the number of persons in the city, between 5 and 15 years of age, has diminished. At the commencement of the present year, the schools were all full to overflowing; but the attendance was much reduced in March, by prevailing sickness among the children of the city. The approach of summer and a partial revival of business have diminished the number still more. It is remarkable that in the schools of this city, containing more than 5000 scholars according to the last Report, but four male teachers are employed constantly. Another fact somewhat remarkable is, that in all the schools the sexes are mixed; the last separate schools were mixed during last year.

The number of Public Schools and teachers in the Center District is as follows: 1 High School, 4 teachers; 3 Grammar Schools, 10 teachers; 6 Secondary Schools, 11 teachers; and 14 Primary Schools, 25 teachers.

Besides the Public Schools, we are not lacking for Private Institutions. Some of the best known are, the College of the Holy Cross, the Female College, the Oread Institute, the Worcester Academy, Mr. Beane's School, and Prof. Bushee's School for young ladies, Mr. Metcalf's School for boys, and the School of Design and Academy of Fine Arts. The last-named Institution, under the charge of Misses Robinson and Gardner, is located in Clark's Block on Main Street. It was established about a year and a half ago, at first under the sole charge of the Senior Principal, who has recently returned from Dusseldorf, Germany, where she had studied several years. We think the success of her enter-

prise has more than equalled her most sanguine expectations. Arrangements have recently been made, such that pupils can board with the Principals at the Institution.

One attraction after another has been added to the exhibition rooms of the School of Design, until citizen or stranger can hardly find a more agreeable place of resort, especially as he is sure to receive from the Principals a cordial welcome and polite attention.

GOOD HUMOR.

Among all the essentials of success in the school-room, none perhaps is more important or more difficult of possession at all times, than good humor. If the teacher has this quality naturally, the love of mischief, carelessness and inattention which he will surely find in every school, in a greater or less degree, will put his good humor to the test, especially as his head cannot always be free from pain, nor his body from weariness.

We do not mean by the term which we have used, that everlasting, meaningless smirk which we have sometimes seen on teachers' faces. Neither do we mean that the teacher is never to speak reprovingly, perhaps sometimes severely. Yea, he may be obliged to administer stern discipline, even with the rod. But we do mean that state of mind which should proceed from a real love of his business and of his pupils, from making due allowance for annoyances and delinquencies from which he cannot reasonably expect to be wholly free, and from not expecting more of scholars than it is reasonable to expect from frail humanity in its juvenile stage.

This state of mind will save its happy possessor from all peevishness, all whining and snappish remarks to his scholars; even if he is obliged to administer the sternest discipline, he will do it in such a spirit that permanent resentment can hardly follow it, for the pupil will see that it is done from a sense of duty and a regard for his own good. If the teacher possesses such a spirit,

he is better fitted to grapple with any difficulty which may present itself, while by its loss he can gain no possible advantage.

We doubt not that all teachers will agree with us that it is no small matter to maintain permanently this invaluable frame of mind; and we think they will be equally unanimous in the opinion that, could they accomplish such a result, it were a "consummation devoutly to be wished." E. C. H.

PRIMARY SCHOOLS.

Among the efforts now put forth for the promotion of educational matters, it seems to us that quite too little attention is given to the Primary School; while it seems equally obvious that no grade of schools needs more attention. The idea that almost any person or any *thing* can teach a primary school, is not yet fully given up in all sections; nor has the little fellow's statement that at school he "had to sit on a bench and say A," ceased to be a tolerably full description of the proceedings in many a primary school. It is in these schools that the pupils learn wrong habits, and obtain wrong views of study, which no amount of correct training afterward can fully eradicate.

The system of teaching there is too often such as to give the scholar the idea that his business in school is wholly with words, — saying words, reading words, learning words, — it has nothing to do with *things*, with actual life. The learning which he gets at school, is to be a kind of learning that he can shut up in books, place in his desk, and leave in the school-house; and he can go to his play or his work independent of it till school hours return.

We think it evident to every one who *thinks intelligently* upon this subject, that scholars should first be taught orally more than from a book; the living teacher should teach them from *things*, teach them to observe, to use their faculties of body and of mind. And when they study or read their books, the dry forms of the book must be made to have life; otherwise the scholar is collecting mere husks, unmeaning words; and, hence, so much mechanical, lifeless reading, and so much mechanical, lifeless recitation in all departments of school study.

Can anything be more stupid than to set a child to saying A, B, C, when he begins to read? or to put a book in his hand and require him to learn *verbatim* what is printed therein, when he commences Arithmetic or Geography? How much better to introduce him to all these subjects by oral lessons skillfully given, calling his attention to what he already knows, and leading him on, step by step, to learn more by his own investigation. How much better to follow the golden rule of teaching; "things, first; ideas from things next; and definitions, words, last of all." Taught in this way, the pupil, from the first, joins his knowledge with real life, — it is no longer something which he can shut up and leave at the school-house, in a book. He is no longer saying and reading unmeaning words, and acquiring the habit of *reading without thought*, — a habit which will remain with him through life, unless he struggles by and by as with a monster, to be rid of it.

She who would teach a primary school *well*, should be one thoroughly acquainted with the great principles of all education, — a person of much tact and extensive knowledge, and a real lover of children and of the teacher's work. She should be able to lay a foundation, on which a superstructure can be reared, broad and high, beautiful and substantial, an enduring monument to a workman "who needeth not to be ashamed."

When we have such teachers in our Primary Schools, *encouraged and supported by the community*, then we may look to see our Grammar Schools, High Schools and Colleges obliged to do their part of the work in a correct manner, as a matter of course.

E. C. H.

PROVINCIALISMS IN ENGLAND. — Halliwell's "Dictionary of Archaic and Provincial Words, Obsolete Proverbs, and Ancient Customs," contains no less than 50,000 words, which is about the number of provincialisms which it is estimated exist in the colloquial tongue of the lower classes of England, this estimate being founded upon actual collections made in thirty-five counties.

Resident Editor's Department.

EDUCATIONAL MATTERS IN UPPER CANADA.

The last number of the *Teacher* contained an article highly commendatory of the zeal and efficiency of the Rev. Dr. Ryerson, as Superintendent of education in Upper Canada. Within a few weeks charges of a serious nature have been brought against his official management, which, we have reason to believe, are not entitled to the weight with which they have been generally entertained. It is very easy, at any time, to spread reports of malversation in office; and such reports are all the more readily seized upon and injuriously spread abroad when party or sectarian feeling is connected with their origin. The charitable reader certainly cannot refuse to accede to the request made by one of our most valued correspondents, who asks, in behalf of Dr. Ryerson, a suspension of judgment in regard to these charges until the matter has been properly investigated.

TO THE RESIDENT EDITOR:

Dear Sir:—"At the present moment, the enmity excited against Dr. Ryerson, Superintendent of Education in Upper Canada, by a few persons whose character and motives are well understood by all the friends of education in the Province, has reached such a height as to call forth from his pen a document in addition to his last annual Report. A friend has sent me this pamphlet, which contains a full statement of the charges brought against him, and an ample refutation of them all in detail. Baffled in this direction, his opponents have recently had the audacity to bring accusations against him of official malversation, which have excited astonishment and disgust throughout the Province, where his character as a man and a clergyman, aside from his official action on behalf of education have endeared him to the hearts of all enlightened well-wishers to the best interests of the community of which he has been so long a benefactor. Is it too much to expect that persons who have read the newspaper rumors aspersing the character of Dr. Ryerson, which unfortunately have found their way even into the United States, will suspend their judgment in the matter, till opportunity shall have been afforded for a statement of the case on the part of the individual against whom, an accusation of so grave a character has been brought?" W. R.

A Teacher's Office. — There are certain people in the community who appear to regard a school teacher as in some measure their servant, rather than as a useful aid in the bringing up of their children, whose lives they desire to see useful to their fellow men. From them the teacher has no kindly feeling of encouragement. He is regarded simply as a task master, and if their hopefuls should ever feel the weight of his unjust displeasure they are looked upon as martyrs, and he as an oppressive tyrant. Granted that there are those who make the vocation of teaching merely the means of procuring bread and butter, are there not many who desire to be at once the counsellors and co-operators with parents? And should the mere dicta of children in all cases be received as veritable statements of the "outrages" of which they complain? Daily experience proves that corporal punishment is in some cases of school insubordination the only remedy, and as mature years generally bring increased judgment, it is fair to presume that the rod is seldom applied, unless the urgent necessities of the case demand it. — *Saturday Evening Gazette.*

Sir Matthew Hale's plan of Instruction. — The great lawyer, Sir Matthew Hale, in his "Advice to his Grand-children," and "Counsels of a Father," has left the following course of instruction for sons. Till eight, English reading only. From eight to sixteen, the grammar-school. Latin to be thoroughly learned, Greek more slightly. From sixteen to seventeen at the university, or under a tutor: more Latin, but chiefly arithmetic, geometry, and geodesy. From seventeen to nineteen or twenty, "logic, natural philosophy, and metaphysics, according to the ordinary discipline of the university;" but after "some systems or late topical or philosophical tracts," the pupil to be chiefly exercised in Aristotle. Afterwards, should he follow no profession, yet to gain some knowledge of divinity, law, and physics, especially anatomy. Also of "husbandry, planting, and ordering of a country farm." For recreations, he advises "reading of history, mathematics, experimental philosophy, nature of trees, plants, or insects, mathematical observations, measuring land: nay, the more cleanly exercise of smithery, watchmaking, carpentry, joinery work of all kinds."

Tenderness to Animals. — "He that can look with rapture upon the agonies of an unoffending and unresisting animal, will soon learn to view the sufferings of a fellow-creature with indifference; and in time he will acquire the power of viewing them with triumph, if that fellow-creature should become the victim of his resentment, be it just or unjust. But the minds of children are open to impressions of every sort, and, indeed, wonderful is the facility with which a judicious instructor may habituate them to tender emotions. I have, therefore, always considered mercy to beings of an inferior species as a virtue which children are very capable of learning, but which is most difficult to be taught if the heart has been once familiarized to spectacles of distress, and has been permitted either to behold the pangs of any living creature with cold insensibility, or to inflict them with wanton barbarity." — *Dr. Parr.*

Johnson in College. — "If put out of temper, he was not very moderate in the terms in which he expressed his displeasure. I remember that in the common-room of University College, he was dilating upon some subject, and the then head of Lincoln College, Dr. Mortimer, was present. Whilst Johnson

was stating what he proposed to communicate, the Doctor occasionally interrupted him, saying, 'I deny that!' This was often repeated, and observed upon by Johnson, in terms expressive of exceeding displeasure and anger. At length, upon the Doctor's repeating the words 'I deny that,' 'Sir, sir,' said Johnson, 'you must have forgot that an author has said, *Plus negabit anus asinus in unâ horâ, quam centum philosophî probaverint in centum annis.*'" — *Lord Eldon.*

Mathematical.

QUESTION 16. Solve the equations:

(1) $x^2 + y = 18$. (2) $y^2 + x = 8$.

ROOTS OF EQUATIONS AND OF NUMBERS.

Students of Algebra are told that the number of roots of any equation is indicated by the index of the highest power of the unknown quantity.

In pure quadratics, the two roots differ only in their sign; one being positive, and the other negative. In affected quadratics, the signs may be unlike; both roots may be positive, both negative, or both may be imaginary quantities, — the character of the roots being dependent upon the signs and relative magnitudes of the known quantity and the co-efficient of the first power of the unknown quantity. If one root of any quadratic equation is imaginary, the other must also be.

Less advanced students are sometimes at a loss to determine the three roots of a pure cubic equation. When one root is found, the others may be obtained by the usual process: transposing both terms to one side, dividing by the unknown quantity minus its known value, and solving the quadratic equation thus produced. Suppose a to be the known root of any pure cubic equation, then the other two roots are $\frac{a}{2}(-1 \pm \sqrt{-3})$. Thus the roots of $x^3 = 27$ are 3 and $\frac{3}{2}(-1 \pm \sqrt{-3})$; of $x^3 = -64$, are -4 and $2(1 \mp \sqrt{-3})$; and of $x^3 = 16$, are $2\sqrt[3]{2}$ and $\sqrt[3]{2}(-1 \pm \sqrt{-3})$, using $\sqrt[3]{2}$ in its usual sense. Hence we also learn that *every number or quantity* has two imaginary cube roots, in addition to its rational or approximate root.

Let $x^4 = a^4$. By extracting the square root twice, we obtain $x = \pm a$ or $\pm a\sqrt{-1}$, as the four roots. From this it appears that there are two real and two imaginary roots to every pure biquadratic equation, the imaginary being obtained from the real by multiplying by $\sqrt{-1}$. The same is also true of the fourth roots of any number or quantity.

If $x^5 = a^5$, one root of the equation is evidently a. Dividing $x^5 - a^5$ by $x - a$, we have $x^4 + ax^3 + a^2x^2 + a^3x + a^4 = 0$. Adding $\frac{5}{4}a^2x^2$ to each side,

$$x^4 + ax^3 + \frac{9}{4}a^2x^2 + a^3x + a^4 = \frac{5}{4}a^2x^2.$$

Evolving, $$x^2 + \frac{1}{2}ax + a^2 = \pm \frac{1}{2}ax\sqrt{5}.$$

This equation gives $x = \frac{1}{4}a\,(-1 \pm \sqrt{5} \pm \sqrt{-10 \mp 2\sqrt{5}})$, where the signs of $\pm\sqrt{5}$ and $\mp 2\sqrt{5}$ are dependent on and opposite to each other, thus giving four values in addition to the original root, a. As -10 is numerically greater than $\mp 2\sqrt{5}$, four of the five roots of the equation are imaginary.

To find the roots of the equation $x^6 = a^6$, we take the cube root of the square root, and obtain $x = \pm a$ or $\pm \frac{a}{2}(-1 \pm \sqrt{-3})$, four imaginary and two real quantities.

The formulæ obtained above for equations of the fifth and sixth degree apply also to the fifth and sixth roots of numbers. From the general theory of equations, we should conclude that the sum of the roots in each case should be zero; and, by examining our formulæ, we find such to be the case.

When we have fractional exponents, the numerator indicates the number of roots, and the denominator shows how the use of those roots is limited; so that the number of roots is still, in one sense, indicated by the number of units in the index. If $x^{\frac{3}{2}} = 8$, $x^3 = 64$, and $x = 4$ or $2\,(-1 \pm \sqrt{-3})$. Here are three values, but each is restricted to the positive square root, or, in other words, can be used in only one of its two senses; hence the number of values may be appropriately represented by $\frac{3}{2}$, or $1\frac{1}{2}$. If $x^{\frac{4}{3}} = 81$, $x = \pm 27$ or $\pm 27\sqrt{-1}$. These four values are each limited to one of their three cube roots; therefore the number of values is, in one sense, equivalent to $\frac{4}{3}$, or $1\frac{1}{3}$.

In equations which come under the head of affected quadratics, the principle still holds true. The values of x in the equation $x + 2x^{\frac{1}{2}} = 15$ are 9 and 25; but one is restricted to the positive, and the other to the negative, square root. The number of values may then be represented by $\frac{2}{2} = 1$. The values of x in the equation $x^{\frac{4}{3}} + x^{\frac{2}{3}} = 20$, are $x = \pm 8$ and $\pm 5\sqrt{-5}$; but each is limited to one of the three cube roots. It will be observed that the two exponents must have a common denominator, in order to express the real number of roots, irrespective of their restrictions. Thus the equation $x^3 + 4x^{\frac{3}{2}} = 96$ has six roots; a part restricted to the positive, and a part to the negative, square root.

D. W. H.

PROPERTIES OF NUMBERS.

The principle of divisibility given under this head in the last number of the "Teacher," admits of a greater degree of generalization than we have hitherto given, and may be expressed as follows:

The difference between unity and any even power of an odd number is divisible by four times the greatest power of 2 found as a factor in the exponent of that power.

For example, $3^6 - 1 = 3^{2 \times 3} - 1 = 728$ is divisible by $8 = 4 \times 2$; and and $5^4 - 1 = 624$ is divisible by $16 = 4 \times 4 = 4 \times 2^2$.

To prove this principle generally, let M be any odd number, and let $2^r p$ be the exponent of any even power of it, p being an odd number. It is to be proved that $M^{2^r p} - 1$ is divisible by 4×2^r.

From a well-known principle in Algebra, $M^{2^r p} - 1 = (M^{2^{r-1} p} + 1)(M^{2^{r-1} p} - 1)$; the second factor may be separated into the two factors, $M^{2^{r-2} p} + 1$ and $M^{2^{r-2} p} - 1$; this last factor may be separated into $M^{2^{r-3} p} + 1$ and $M^{2^{r-3} p} - 1$; and so on, until the final factor is $M^{2^{r-r} p} - 1 = M^{2^0 p} - 1 = M^p - 1$. Hence the original quantity $= (M^{2^{r-1} p} + 1)(M^{2^{r-2} p} + 1)(M^{2^{r-3} p} + 1)(M^{2^{r-4} p} + 1) \ldots\ldots (M^{2p} + 1)(M^p + 1)(M^p - 1)$.

Now, since any power of an odd number is odd, each of the factors having $+ 1$ for its second term is even, and divisible by 2; and, as the last factor is even, that is also divisible by 2. But it is easy to see that there are as many factors preceding the last as there are units in r. Hence the quantity is divisible by 2×2^r.

Moreover, in the same manner as it was proved in the last number, that, when m is odd, either $m + 1$ or $m - 1$ is divisible by 4, it may be proved that either $M^p + 1$ or $M^p - 1$ is divisible by 4. But we have already used 2 as a factor once in each, and we have now to use it as a factor once more in one of them. We previously had as a divisor 2×2^r; and, as we are to use 2 as a factor once more, we have as a divisor of the given quantity 4×2^r.

T. S.

SOLUTION OF QUESTION 6.

[A conical vessel whose internal altitude is two feet, and the diameter of whose base is one foot, is filled with water at the standard temperature. What is the pressure on the entire surface in the three following positions, viz.: when the base is horizontal and downwards, when the base is horizontal and upwards, and when the side of the cone is horizontal?]

In treatises on Hydrostatics, it is proved that the pressure of a liquid upon any surface is equal to the weight of a volume of the liquid found by multiplying the area of the surface subjected to pressure into the depth of the centre of gravity of that surface below the upper surface of the liquid. The centre of gravity of a circle is its centre, and the centre of gravity of the convex surface of a cone is a point in the axis at a distance from the centre of the base equal to one-third of the axis.

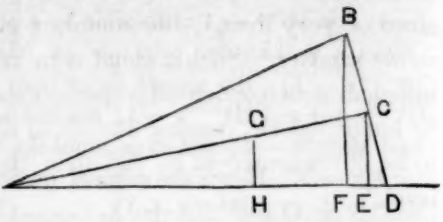
Applying these principles, and taking 1000 ounces as the weight of a cubic foot of water, we have, in *Case First:*

Area of base $= \frac{1}{4}\pi$; depth of its centre of gravity, $= 2$ feet; $\therefore$ pressure on base $= 1000 \times 2 \times \frac{1}{4}\pi = 500\pi = 1570.76$ oz. Circumference of base $= \pi$; slant-height $= \frac{1}{2}\sqrt{17}$; $\therefore$ area of convex surface $= \frac{1}{4}\pi\sqrt{17}$; depth of its centre of gravity $= \frac{4}{3}$. Hence pressure on convex surface $= \frac{1000\pi\sqrt{17}}{3}$ $= 4317.7$ oz. Total pressure $= 5888.46$ oz. *Ans.*

Case Second. The vertex being downwards, and the base horizontal, there

will be no pressure upon the base. The depth of the centre of gravity of the convex surface is one-third of the axis, and therefore half as great as in the preceding case. The pressure on this surface will be, consequently, half as great as before; that is, = 2158.85 oz. *Ans.*

Case Third. Let ABD be a section of the cone through the axis AC; let BD be the diameter of the base, and G the centre of gravity of the convex surface. From B, C, and G, let fall upon AD, the slant height, the perpendiculars BF, CE, and GH. We are to determine the depths of the points C and G below the point B.



From similar triangles, we have

AD : AC = CD : CE, or $\frac{1}{2}\sqrt{17} : 2 = \frac{1}{2} : CE$, $\therefore CE = \frac{2}{\sqrt{17}}$. But BF is evidently = 2 CE = $\frac{4}{\sqrt{17}}$, $\therefore$ CE is equal to the depth of C below the point B.

From the similar triangles, AGH and ACE, it is plain that GH = $\frac{2}{3}$ CE = $\frac{4}{3\sqrt{17}}$. Hence, the depth of G below B = BF − GH = $\frac{4}{\sqrt{17}} - \frac{4}{3\sqrt{17}}$ = $\frac{8}{\sqrt{17}}$. Taking the area of the base and that of the convex surface as found in case first, we have pressure on base = $1000 \times \frac{1}{4}\pi \times \frac{2}{\sqrt{17}} = \frac{500\pi}{\sqrt{17}}$ = 380.97 oz.; pressure on convex surface = $1000 \times \frac{8}{3\sqrt{17}} \times \frac{1}{4}\pi\sqrt{17}$ = $\frac{2000\pi}{3}$ = 2094.39 oz.; total pressure = 2475.36 oz. *Ans.* T. S.

Scientific.

WHY WE HAVE NO THUNDER IN THE WINTER. — Prof. Espy, in his fourth Meteorological Report, thus explains why we have no thunder in the winter:

"If it is asked why we have no thunder in the winter, though the tops of the storm clouds rise even in this season to a region where the air is at least considerably charged with electricity, perhaps the answer may be found in this — that the storm clouds in the winter are of great extent, and of course the tension of the electricity, being extended over a very large surface, is very feeble; and the substance of the cloud being itself framed out of vapor much less dense than that of summer clouds, this

tension may not be able to strike from one particle of the cloud to the next adjacent one; no general discharge can take place. Besides, even in the winter, during a very warm spell of weather, with a high dew point for the season, we sometimes have a violent thunder storm from a cloud of very limited horizontal extent, *as the thunder clouds always are in the summer.* Such a cloud is in reality an insulated pillar of hot air, mingled with condensed vapor, having just given out into the air itself its latent caloric, causing the air at the top of this cloud, in many cases, to be 60° warmer at its top than the air on the outside at the same level."

Intelligence.

EDUCATIONAL ACTS PASSED DURING THE LAST SESSION OF THE LEGISLATURE, 1858.

AN ACT concerning the Employment of Children in Manufacturing Establishments.

Be it enacted, &c., as follows:

SECT. 1. No child under twelve years of age shall be employed in any manufacturing establishment in this Commonwealth, unless such child shall have attended some public or private school of which the teacher shall have been approved by the school committee of the city or town in which such school shall have been kept, eighteen weeks within the year next preceding the time of such employment, and for the same period during any and every twelve months in which such child shall be so employed; but the provisions of this act shall not apply to a child who shall have removed into this Commonwealth from any other State or country, until such child shall have resided six months within this Commonwealth.

SECT. 2. The owner, agent, or superintendent of any manufacturing establishment in this Commonwealth, who shall employ any child in such establishment, contrary to the provisions of this act, shall forfeit a sum not exceeding fifty dollars, to be recovered by indictment, to the use of the common schools in the town where said establishment may be situated.

SECT. 3. All acts and parts of acts inconsistent with this act, are hereby repealed.

[*Approved March* 25, 1858.

AN ACT in relation to Certain Funds belonging to the Commonwealth, and the Disbursement of the Income thereof.

Be it enacted, &c., as follows:

SECT. 1. The Massachusetts School Fund, the State Almshouse Loan Sinking Fund, the fund provided by chapter one hundred and ninety-seven of the acts of the year one thousand eight hundred and fifty-seven, (which fund shall hereafter be known as the "Debt Extinguishment Fund,") the Indian School Fund, the Todd Normal School Fund, the donation of Henry B. Rogers, (hereafter to be known as the "Rogers Book Fund,") the Charles River and Warren Bridges Fund, and all additions which may be made to said funds, shall continue to be held and invested, and the investments may be altered, according to such acts and resolves as have been or may hereafter be passed relating to said funds, anything contained in the first chapter of the acts of the present year to the contrary notwithstanding: *provided*, that no part of the income of any of said funds shall be used for any other purpose than to be added to the principal for the

purpose of accumulation, unless in accordance with some specific appropriation as is provided in said first chapter, or unless it is otherwise provided in this act.

SECT. 2. One moiety of the income of the Massachusetts School Fund shall be annually apportioned and distributed among the several cities and towns in this Commonwealth entitled thereto, for the use and support of common schools, in the manner, according to the provisions, and under the restrictions, heretofore established by law for such apportionment and distribution, although no specific appropriation thereof be made to this effect; and the other moiety shall furnish the means from which all educational expenses shall be paid, in accordance with such appropriations as may be made in each year; and the balance not required to satisfy such appropriations, shall always be added to the principal of the fund.

SECT. 3. The sums hereinafter mentioned in this section, are appropriated and shall be allowed and paid out of the moiety of the income of the school fund applicable to educational purposes, for the year one thousand eight hundred and fifty-eight, including also unpaid accounts of preceding years, in addition to three thousand six hundred dollars, already appropriated in the eleventh chapter of the acts of the present year; that is to say: —

For the support of the four State normal schools, in accordance with the provisions of the resolves of the year one thousand eight hundred and fifty-five, chapter forty-eight, and the resolves of one thousand eight hundred and fifty-seven, chapter eighty-five, a sum not exceeding thirteen thousand five hundred dollars.

For the support of one or more agents of the board of education, in accordance with the provisions of the resolves of the year one thousand eight hundred and fifty-seven, chapter twenty-two, a sum not exceeding three thousand five hundred dollars.

For the Massachusetts Teachers' Association, in accordance with the resolves of the year one thousand eight hundred and fifty-three, chapter nine, three hundred dollars; and in accordance with the resolves of the year one thousand eight hundred and fifty-seven, chapter thirty-five, three hundred dollars.

To supply dictionaries to the schools, in accordance with the resolves of the year one thousand eight hundred and fifty, chapter ninety-nine, a sum not exceeding six hundred dollars.

For teachers' institutes, in accordance with the acts of the year one thousand eight hundred and forty-six, chapter ninety-nine, the resolves of the year one thousand eight hundred and fifty, chapter sixty-five, and the resolves of the year one thousand eight hundred and fifty-two, chapter two, a sum not exceeding four thousand two hundred and fifty dollars.

For the support of state scholarships, in accordance with the acts of the year one thousand eight hundred and fifty-three, chapter one hundred and ninety-three, four thousand eight hundred dollars.

For aid to attendants in the State normal schools, in accordance with the resolves of the year one thousand eight hundred and fifty-three, chapter sixty-two, a sum not exceeding four thousand dollars.

For the expenses of the secretary of the board of education, in accordance with the acts of the year one thousand eight hundred and forty-nine, chapter two hundred and fifteen, section third, a sum not exceeding four hundred dollars.

For the expenses of the members of the board of education, in accordance with the acts of the year one thousand eight hundred and thirty-eight, chapter fifty-five, a sum not exceeding two hundred dollars.

For the New England School of Design for Women, in accordance with the resolves of the year one thousand eight hundred and fifty-six, chapter ninety, five hundred dollars.

For the New England Female Medical College, in accordance with the resolves of the year one thousand eight hundred and fifty-four, chapter eighty-five, one thousand dollars; and in accordance with the resolves of the year one thousand eight hundred and

fifty-five, chapter forty-five, and subject to the conditions therein mentioned, two thousand five hundred dollars.

For the support of certain Indian schools, in accordance with the Revised Statutes chapter twenty-three, section sixty-eight, one hundred dollars; in accordance with the acts of the year one thousand eight hundred and thirty-eight, chapter one hundred and fifty-four, one hundred and forty dollars; in accordance with the resolves of the year one thousand eight hundred and fifty-five, chapter thirty-five, one hundred and sixty-five dollars; in accordance with the resolves of the year one thousand eight hundred and fifty-six, chapter twenty, sixty dollars; chapter twenty eight, one hundred and four dollars; chapter thirty-four, sixty dollars; making in the aggregate six hundred and twenty-nine dollars.

For county associations of teachers, in accordance with the acts of the year one thousand eight hundred and forty-eight, chapter three hundred and one, a sum not exceeding seven hundred dollars.

For postage, printing, advertising, stationery, meteorological observations, and all other incidental expenses of the board of education, or of the secretary thereof, a sum not exceeding three thousand eight hundred dollars.

And it shall be the duty of all societies, associations and institutions to which money is paid in virtue of appropriations herein made, to make a report to the auditor, on or before the first day of January next, stating particularly the manner in which such money has been disbursed. The auditor shall include an abstract of said statements in his annual report.

SECT. 4. All payments made for accrued interest upon securities purchased in making new investments of any part of the principal of the Massachusetts School Fund, shall be charged against, and deducted from, the income of the fund. Such payments when made before the first day of June in any year, shall be deducted from the income previous to its division into two parts as herein before provided: when made subsequently, they shall be charged against the income to be divided in the next year.

SECT. 5. The income of the school fund may be anticipated from the ordinary revenue, whenever this is necessary to carry out the provisions of the third and fourth sections of this act: *provided*, that all sums thus anticipated shall be repaid as soon as practicable; and *provided, further*, that no payments shall be made from the ordinary revenue in any year, in anticipation of the income of the school fund to be earned in the succeeding year.

SECT. 6. All grants of money from the income of the school fund heretofore made for a specified number of years, shall cease and determine at the expiration of the periods for which they have severally been made, unless annually renewed; and all such grants made for an indefinite period shall cease and determine with the present year; and upon the determination of such grants the legislature shall have full power in each year to apportion and appropriate the moiety of the income of the school fund applicable to educational purposes, to such objects and by such amounts as shall seem to the legislature in each year best to subserve the educational interests of the Commonwealth

SECT. 7. The income of the Indian's School Fund, shall be applied according to the provisions of the acts of the year one thousand eight hundred and thirty-seven, chapter eighty-five, section seven.

SECT. 8. The income of the Todd Normal School Fund shall be paid to the treasurer of the board of education, to be applied in such manner as may be prescribed by said board.

SECT. 9. Relates to the sale of lands in the Back Bay.

SECT. 10. The income of the Rogers Book Fund shall be annually expended in accordance with the conditions named by the donor, in conformity with chapter two hundred and fifteen of the acts of the year one thousand eight hundred and fifty-seven.

SECTS. 11, 12, 13 and 14. Relate to the Charles River and Warren Bridges.

SECT. 15. In any case for which no other provision is made by law, the income of all funds belonging to the Commonwealth shall be added to the principal.

SECT. 16. All acts and parts of acts inconsistent with the provisions of this act, are hereby repealed.

SECT. 17. This act shall take effect from and after its passage. [*Approved March* 26, 1858.

[CHAP. 145.]

AN ACT in relation to School Districts.

Be it enacted, &c., as follows:

SECT. 1. All sums of money expended by order of the general school committee in repairing, enlarging, or in the erection of new school-houses in any unorganized school district, shall be assessed upon the inhabitants of such district.

SECT. 2. This act shall take effect from and after its passage. [*Approved March* 27, 1858.

BRIDGEWATER NORMAL ASSOCIATION. The annual Convention will be held at Bridgewater, on Wednesday, the 28th inst., at 10 o'clock, A. M. The address will be delivered by John Kneeland, of the Washington School, Roxbury.

Members purchasing tickets at any station on the Fall River and Old Colony Railway, will be furnished with free return tickets by the officers of the Association.

WM. H. LADD, *Pres.*

Mr. Edward P. Bates has left Abington Centre High School and taken charge of the High and Grammar School at West Cambridge.

Mr. H. K. Oliver, formerly superintendent of Schools in Lawrence, has been appointed to the same office in Lowell.

Rev. George Bushnell resigned his office as School Superintendent in Worcester the last of April; a successor has not been appointed, and there is some doubt whether one will be chosen, at present.

Reviews and Book Notices.

The first number of the MAINE TEACHER has just been published, and presents both a fine appearance and a good selection of articles. Great credit is due to the State Superintendent of Common Schools for starting almost entirely through his own efforts and upon his own responsibility, a journal which has long been needed. Vermont is now the only State in New England without an educational periodical, and even there the want of it is in some measure supplied by contributions, made under the supervision of the State Teachers' Association, to several of the prominent newspapers of the State.

THE MISSOURI EDUCATOR is the name of a teachers' journal recently started in the "Far West," under the charge of Mr. Thos. J. Henderson, of Jefferson City, as Editor and Proprietor. About a year ago the State Association of teachers published one number of a similar periodical, but afterwards abandoned the enterprise for want of funds. May this meet with better success.

MESSRS. PHILLIPS & SAMPSON are about to issue a new Italian Grammar, by Sig. G. B. Fontana. The reputation of the author, as a teacher, will ensure for the work a rapid sale. The same publishers have also in press a new Grammar of the German Language, prepared by Dr. Douai, of this city.

THE ATLANTIC MONTHLY, for July, has the usual variety of excellent reading. By an arrangement made with the publishers, we continue to furnish this valuable periodical, together with the *Teacher*, for $3 per annum.